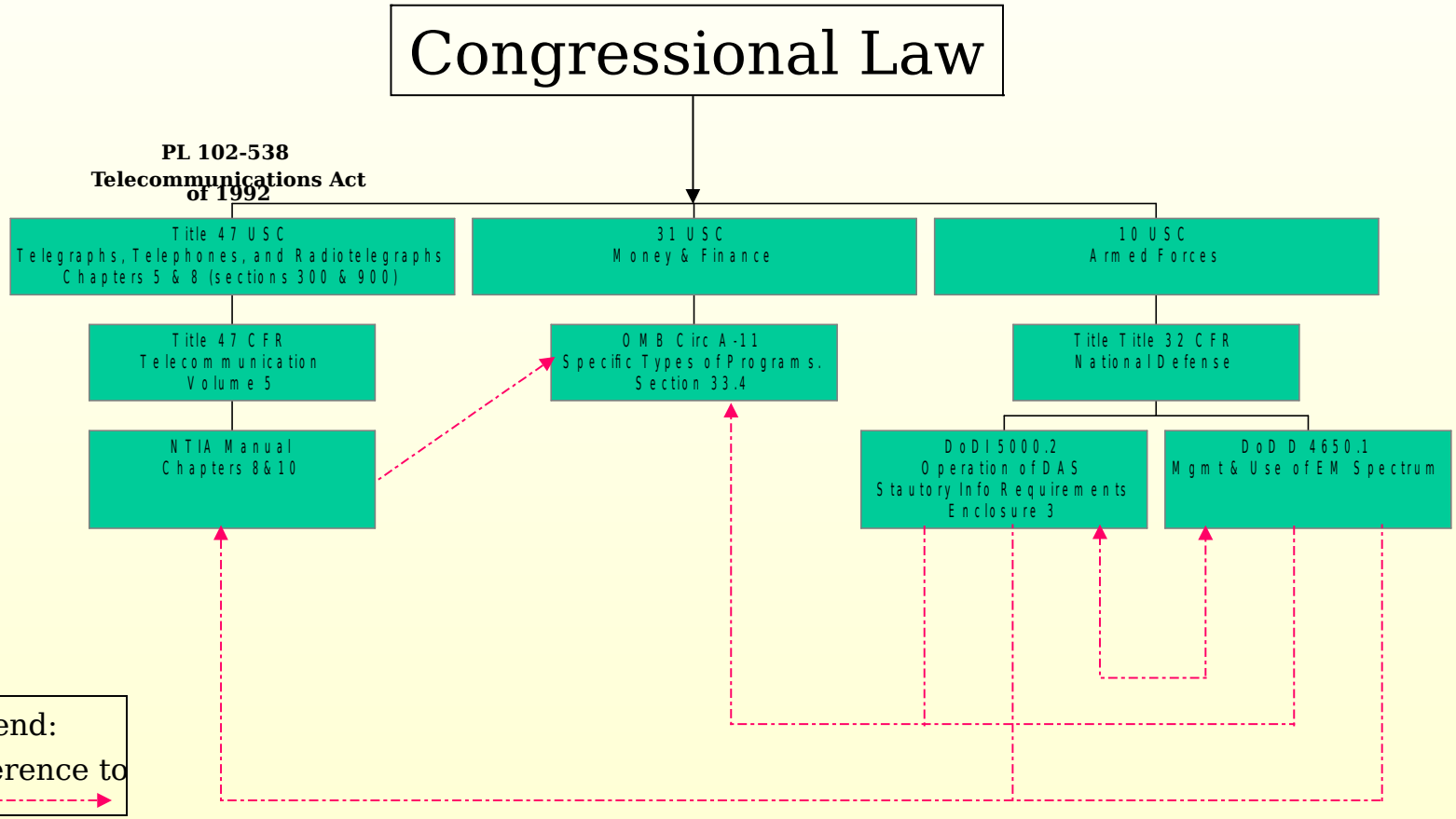
Review & Assessment of the Current U.S. Code Related to Electromagnetic Spectrum Management

23 June 2005

Flow of Laws to Regs



DoDD 4650.1 policy reflects the intent of Congressional Law

PL 102-538 Telecommunications Authorizations Act of 1992

Sec 901 (b) FINDINGS- The Congress finds the following:

(1) Telecommunications and information are vital to the public welfare, national security, and competitiveness of the United States.

(2) Rapid technological advances being made in the telecommunications and information fields make it imperative that the United States maintain effective national and international policies and programs capable of taking advantage of continued advancements.

(3) Telecommunications and information policies and recommendations advancing the strategic interests and the international competitiveness of the United States are essential aspects of the Nation's involvement in international commerce.

(4) There is a critical need for competent and effective telecommunications and information research and analysis and national and international policy development, advice, and advocacy by the executive branch of the Federal Government.

(5) As one of the largest users of the Nation's telecommunications facilities and resources, the Federal Government must manage its radio spectrum use and other internal communications operations in the most efficient and effective manner possible.

(6) It is in the national interest to codify the authority of the National Telecommunications and Information Administration, an agency in the Department of Commerce, as the executive branch agency principally responsible for advising the President on telecommunications and information policies, and for carrying out the related functions it currently performs, as reflected in Executive Order 12046.

This law legitimates the role and responsibilities of NTIA and is codified into Title 47 U.S. Code, Chapter 8, "National Telecommunications and Information Administration"

47 U.S.C. Chapter 5 “Wire or Radio Communications”, Sub Chapter III “Special Provisions Relating To Radio”

- Sec 302a (c)
- “Devices and home electronic equipment and systems for use by the Government of the United States or any agency thereof shall be developed, procured, or otherwise acquired, including offshore procurement, under United States Government criteria, standards, or specifications designed to achieve the objectives of reducing interference to radio reception and to home electronic equipment and systems, taking into account the unique needs of national defense and security.”

Chapter 5 creates the FCC and sets forth laws related to both FCC and U.S.Government stations

47 U.S.C. Chapter 5 “Wire or Radio Communications”, Sub Chapter III “Special Provisions Relating To Radio”

- Sec 305
- “(a) Frequencies; compliance with regulations; stations on vessels

  Radio stations belonging to and operated by the United States shall not be subject to the provisions of sections 301 and 303 of this title. All such Government stations shall use such frequencies as shall be assigned to each or to each class by the President. All such stations, except stations on board naval and other Government vessels while at sea or beyond the limits of the continental United States, when transmitting any radio communication or signal other than a communication or signal relating to Government business, shall conform to such rules and regulations designed to prevent interference with other radio stations and the rights of others as the Commission may prescribe. ”

The President assigns frequencies to government stations

47 U.S.C. Chapter 5 “Wire or Radio Communications”, Sub Chapter III “Special Provisions Relating To Radio”

- Sec. 324:
- “In all circumstances, except in case of radio communications or signals relating to vessels in distress, all radio stations, including those owned and operated by the United States, shall use the minimum amount of power necessary to carry out the communication desired. ”

All stations must use minimum power needed

47 U.S.C.
Chapter 8 “NTIA”
Sub Chapter I “Organization And Functions ”

- Sec. 902. Establishment; assigned functions(b).(2):
- “(A) [NTIA has] The authority delegated by the President to the Secretary to assign frequencies to radio stations or classes of radio stations belonging to and operated by the United States, including the authority to amend, modify, or revoke such assignments, but not including the authority to make final disposition of appeals from frequency assignments.”
- “(K) [NTIA has] The authority to establish policies concerning spectrum assignments and use by radio stations belonging to and operated by the United States.”
- Sec. 904 (c) General provisions (1) Regulations
- “The Secretary and NTIA shall issue such regulations as may be necessary to carry out the functions assigned under this chapter. ”

President has delegated authority to NTIA & NTIA must issue regulations

Code of Federal Regulations (CFR)
Title 47, Volume 5
Revised as of October 1, 2004

- Sec. 300.1 Incorporation by reference…:
- (a) The Manual of Regulations and Procedures for Federal Radio Frequency Management (hereinafter referred to as the NTIA Manual) is issued by the Assistant Secretary of Commerce for Communications and Information, and is specifically designed to cover the Assistant Secretary's frequency management responsibilities pursuant to delegated authority under 47 U.S.C. 901 et seq. and Executive Order 12046 (March 27, 1978)"

CFR confirms that the NTIA Manual is the regulation governing authorization of government stations

NTIA Manual
Preface

- Paragraph 2:
- “The Manual is issued by the Assistant Secretary of Commerce for Communications and Information (hereafter referred to as the Assistant Secretary) and is specifically designed to cover his/her frequency management responsibilities pursuant to delegated authority under Section 305 of the Communications Act of 1934, as amended.”

NTIA Manual confirms that it is the regulation governing authorization of government stations

NTIA Manual, Chapter 10

Procedures for the Review of Telecommunication Systems for Frequency Availability, Electromagnetic Compatibility (EMC), and Telecommunications Service Priority for Radio Communications

- **10.1.1 Avoiding Interference**:
- "Government agencies planning the use of, conducting experiments relating to, or developing and procuring telecommunication systems requiring the use of radio frequencies shall take all reasonable measures to ensure that such systems will neither cause nor receive harmful interference to or from other authorized users when placed in their intended operational environments. In planning telecommunication systems within the scope of this procedure, Government agencies shall develop systems for operational use in accordance with the applicable portions of the National Tables of Frequency Allocations and the provisions of this Manual, unless an exception is recommended by the Spectrum Planning Subcommittee (SPS) and approved by NTIA."

Developing does not refer to "System Development and Acquisition Phase" of the Defense Acquisition System, but rather to the development of any Government radio station, i.e

NTIA Manual

Chapter 10 Procedures for the Review of Telecommunication Systems for Frequency Availability, Electromagnetic Compatibility (EMC), and Telecommunications Service Priority for Radio Communications

- **10.1.2 Satisfying OMB Circular A-11**:
- "OMB Circular No. A-11 specifies in Section 34.1: "you must obtain a certification by the National Telecommunications and Information Administration, Department of Commerce that the radio frequency required is available before you submit estimates for the development or procurement of major communications-electronics systems (including all systems employing space satellite techniques)". NTIA certification of spectrum support can be obtained using the procedures in this chapter. The matter of preparation and submission to OMB of budget estimates for Government systems is covered in Section 8.2.5."

The particular way of satisfying the OMB budget submission criteria is to submit a 1494, but this does not mean that U.S. law is satisfied.

NTIA Manual, Chapter 10

10.4 Stages Of Review And Scheduling：

“1. Stage 1, Conceptual: Certification of spectrum support for telecommunication systems or subsystems

at Stage 1 provides guidance on the feasibility of obtaining certification of spectrum sup-port at subsequent stages. Those systems or subsystems that have a major impact on spectrum usage as defined by the user agencies, IRAC, or NTIA, especially those that use new technological concepts or use existing technology in significant new ways, should be submitted. The guidance provided will indicate any modifications, including more suitable frequency bands, necessary to assure conformance with the Tables of Frequency Allocations and the provisions of Chapter 5.

- 2. Stage 2, Experimental: Certification of spectrum support for telecommunication systems or sub-systems at Stage 2 is a prerequisite for NTIA authorization of radiation in support of experimentation for systems that are subject to these procedures (see Part 10.2). It also provides guidance for assuring certification of spectrum support at subsequent stages. Certification at Stage 2 may be requested for test equipment, modified operational equipment, or initial design models that can be used to determine which of several frequency bands or which of several proposed equipment configurations should be selected for continued investigation.
- 3. Stage 3, Developmental: Certification of spectrum support for telecommunication systems or subsystems at Stage 3 is a prerequisite for NTIA authorization of radiation in support of developmental testing for systems that are subject to these procedures. It also provides guidelines for assuring certification of spectrum support at Stage 4. At this point, the intended frequency band will normally have been determined and certification at Stage 3 will be required for testing of proposed operational hard-ware and potential equipment configurations..”
- 4. Stage 4, Operational: Certification of spectrum support for telecommunication systems or subsystems at Stage 4 is a prerequisite for NTIA authorization of radiation from a station with an operational station class (i.e., other than experimental) for systems that are subject to these procedures. Tracking, telemetry, and telecommand operations for satellite networks shall have NTIA Stage 4 certification of spectrum support before the launch of the spacecraft (see Section 8.2.53). Stage 4 certification provides restrictions on the operation of the system or subsystem as may be necessary to prevent harmful interference.”

These descriptions from the NTIA manual clearly imply certification is needed for such things as S&T developments as well as during concept refinement and technology

NTIA Manual, Chapter 10

- **10.4 Stages Of Review And Scheduling** :
- "2 Scheduling of Reviews: Systems or subsystems falling within the scope of this chapter shall be referred to the SPS in sufficient time to permit guidance to be developed by SPS and NTIA and applied by the agency. System reviews normally can be completed and spectrum support guidance can be provided within three to nine months from the date of submission to SPS. The submitter shall consider this time period and the provision of subsection 10.5.3.1 requiring the FAS to withhold frequency assignments until the assignment particulars conform to the spectrum support guidance. For space systems, the submitter shall also consider the time requirements for international processing of advance publication, coordination, notification, and agreement documents.."

NTIA has set a schedule for reviews

NTIA Manual

Chapter 8 Procedures and Principles for the Assignment and Coordination of Frequencies

8.2.5 Withholding Funds Pending Availability of Frequency Support:

"1. The obligation of funds by Government agencies for the development or procurement of communication-electronic equipment, requiring the assignment and protection of radio frequencies for their use, should be withheld pending assurance of the availability of appropriate frequency assignment support. Requirements for obtaining frequency support for telecommunications systems or major modifications of an existing system are under Chapter 10. This includes the selection, procurement, and development of earth or terrestrial station sites and facilities as indicated in Section 8.2.8. This is particularly important in the selection of sites and frequencies for earth and terrestrial stations to be operated in the co-equally shared bands as indicated in Section 8.2.33 (see Sections 8.3.12-8.3.15). In addition, in the case of a Government funded study, or a Government funded equipment procurement, by non-Government interests, wherein the use of radio frequencies is foreseen as a result of the study or procurement, the Government agency concerned should, as far as practicable, apprise the contractor(s)/grantee(s) of the need for ensuring that radio frequency support appears feasible. In this regard, it may be necessary for the Government agency, the non-Government entity, or both, to coordinate with the FCC."

The frequency assignment process applies the OMB A-11 constraints to contractors doing studies that could result in a government a radio station

31 U.S.C. Money & Finance

Chapter 11 The Budget And Fiscal, Budget, And Program Information

- Sec. 1104. Budget and appropriations authority of the President:
- “(d) The President shall develop programs and prescribe regulations to improve the compilation, analysis, publication, and dissemination of statistical information by executive agencies. The President shall carry out this subsection through the Administrator for the Office of Information and Regulatory Affairs in the Office of Management and Budget.”

OMB regulates budget submission for the President

OMB Circ A-11

SECTION 33—Estimates Related To Specific Types Of Programs And Expenditures

- **33.4 Radio spectrum-dependent communications-electronics systems. :**
- "*Relocation and reimbursement*. The National Defense Authorization Act of 1999 (P.L. 105–261) requires the private sector to reimburse Federal agencies for costs associated with relocating or modifying systems to make spectrum available to new commercial licensees. The Act requires you to submit cost estimates to OMB for such relocations or modifications of radio spectrum-dependent communications-electronics systems anticipated under section 113 of the National Telecommunications Information Administration Organization Act (47 U.S.C. 923). These estimates will form the basis for estimates that must be provided to the Commerce Department's National Telecommunications and Information Administration in advance of an auction of the spectrum that has been reallocated for commercial use. OMB will issue separate instructions regarding this requirement.
- *Spectrum certification*. You must obtain a certification by the National Telecommunications and Information Administration, Department of Commerce that the radio frequency required can be made available before you submit estimates for the development or procurement of major radio spectrum dependent communication-electronics systems (including all systems employing space satellite."

OMB is looking to reduce risk of wasting money by requiring an analysis of not only allocation propriety but also frequency availability.

Title 10 - Armed Forces
Subtitle A - General Military Law
PART IV - Service, Supply, And Procurement
Chapter 144 - Major Defense Acquisition Programs

- **Sec. 2430. Major defense acquisition program defined:**

"(a) Authority. - The Secretary of Defense is authorized to conduct major defense acquisition programs as spiral development programs."

DAS falls under Title 10, SM under Title 47 and Budgeting under Title 31